REMARKS

As indicated above in the listing of the claims, Applicants amend claims 1, 3, 4, 16, and 18, and cancel claims 2 (now incorporated in claim 1), 7 (now incorporated in claim 3) and 19 (now incorporated in claim 16). Support for the amendments can be found in the original claims, and throughout the remainder of the specification. Thus, no new matter is added.

Rejections Under 35 U.S.C. 102

The Office Action rejects claims 1 and 2 as being anticipated by U.S. Patent No. 6,405,250 of Lin et al.

Claim 1, as amended, recites a network system that includes an internal configuration database process for managing configuration of internal resources within a network device in response to configuration input provided by an external Network Management System (NMS) process, and a plurality of modular processes that communicate with the configuration database to access configuration data, wherein the processes use the configuration data to modify execution behavior. A duplicate configuration database is maintained by the external NMS that stores a copy of data in contained in the internal configuration database. Further, the internal configuration database supports an active query feature and the NMS database is configured to establish an active query for all records within the configuration database to synchronize the NMS database with the internal database.

Lin is generally directed to a system for managing a set of interconnected network elements (NE) that employs a network management system (NMS) for monitoring the network elements. Each network element includes a management agent that interacts with the NMS to send status data regarding that element thereto. Such status data can include, for example, the number of datagrams successfully processed per unit time. Each management agent also maintains a database containing a behavior transition model corresponding to its associated network element – a model that defines the operating regions of the NE in terms of status parameters and causes for transitions among these regions. The NMS utilizes the NE transition models to derive a network wide model, and maintains a database holding this model as well as the individual NE models. The NMS utilizes the network wide model for monitoring the network and proactive management thereof. Each NE periodically communicates with the NMS

to report updated status data. The timing and the content of such updates are determined based on a policy negotiated between the NMS and each NE.

Lin fails to teach or suggest salient features of amended claim 1. As an initial matter, the databases in Lin maintained by the NMS and the NE's contain transition model data – compiled based on status data of each NE – and not configuration data for configuring the NE's. In contrast, claim 1 recites an internal configuration database, and a duplicate external configuration database, that contain data for configuring the network device, e.g., assigning logical identification numbers (LID) to various circuit cards of the device. Further, the internal configuration database recited in claim 1 is responsive to configuration input data provided by the external NMS. In contrast, the transition model database maintained by each NE is generated based on status data gathered by internal processes executing on that NE, and not in response to data transmitted by the NMS.

In addition, amended claim 1 recites the internal configuration database supports an active query feature and the NMS database is configured to establish an active query for all records within the configuration database to synchronize the NMS database with the internal database – a feature not taught by Lin. More specifically, in Lin, the updating of the NMS database with new status data from an NE is performed based on a pre-defined policy, and not by utilizing an active query feature of the NE database. Applicants explain that such synchronization of the internal and external configuration databases is much more efficient and timely than conventional methods requiring periodic polling of the network device by the NMS.

Hence, claim 1 distinguishes patentably over Lin. Claim 2 is canceled, as its features are now incorporated in claim 1, and thus will not be discussed any further.

Rejections Under 35 U.S.C. 103

The Office Action rejects claims 1-9, 11-19 as being unpatentable over Lin in view of U.S. Patent No. 6,389,464 of Krishnamurthy.

As discussed above, Lin fails to teach or suggest the salient features of amended claim 1. Further, Krishnamurthy does not bridge the gap in the teachings of Lin. More specifically,

Krishnamurthy discloses a system for managing devices from multiple vendors by employing a single network manager. The system includes an integrated site server having a plurality of ports for connection to devices to be managed. A user, e.g., a system manager, can communicate remotely, e.g., via a browser, with the site server to configure the site server to manage a device of interest, e.g., via an SNMP agent residing on the site server. In addition, the managed devices can also be configured to return information relating to selected operating parameters to the site server.

Krishnamurthy does not teach maintaining a configuration database on the site server containing internal configuration of a managed device in synchrony with a corresponding internal database maintained by the managed device by employing an active query feature of the internal database.

Hence, claim 1 distinguishes patentably over the combined teachings of Lin and Krishnamurthy. As noted above, claim 2 was canceled as its features were incorporated in amended claim 1, and hence will not be discussed any further.

Independent claim 3, as amended, recites a communications system that includes a network device having an internal configuration database process for managing configuration of internal resources within the network device. The communications system further includes a computer system that includes an input mechanism for receiving configuration input data from a network manager, and a Network Management System (NMS) process for responding to the configuration input data and for sending configuration data to the configuration database process within the network device. An NMS database is maintained on the computer system in synchrony with the internal configuration database. The configuration database process within the network device configures internal resources of the network device in response to the configuration data received from the NMS. Further, the configuration database supports an active query feature and the NMS database is configured to establish an active query for all records within the configuration database to synchronize the NMS database with the embedded database.

The arguments presented above with respect to claim 1 apply with equal force to establish that claim 3, as amended, is also patentable. For example, as discussed above, the combined teachings of Lin and Krishnamurthy fail to disclose maintaining an internal configuration database of a network device in synchrony with a corresponding database maintained on and external management system of that device via active query features of the internal database.

Hence, similar to claim 1, claim 3 is also patentable over the combined teachings of Lin and Krishnamurthy. Further, claims 4-6, 8, 9, and 11-15 depend either directly or indirectly on claim 3, and hence are also patentable. Claim 7 is canceled as its features are incorporated in amended claim 3.

Independent claim 16, as amended, recites a method of configuring a network device that includes receiving configuration input data from a network manager through an input mechanism on a computer system independent of the network device, and operating on the received configuration input data to generate configuration data. The generated configuration data is sent to a configuration database process within the network device for storage in a configuration database. The method further calls for configuring internal resources within the network device in response to the generated configuration data, maintaining an NMS database within the network manager in synchronization with the configuration database, and establishing an active query for all records within the configuration database for the NMS database.

Amended claim 16 distinguishes over the combined teachings of Lin and Krishnamurthy for the reasons provided above. For example, neither Lin nor Krishnamurthy teaches establishing an active query for all records within a configuration database maintained within a network device for a duplicate configuration database maintained on an independent network manager responsible for managing that network device.

Accordingly, claim 16 and claims 17 and 18 that depend on claim 16 are patenable over the cited patents.

In Paragraph 18, the Office Action rejects claims 10 and claims 16-19 as being unpatentable over Lin in view of Krishnamurthy and further in view of U.S. Patent No. 6,490,624 of Sampson.

Claim 10 depends indirectly on independent claim 3 (via claim 8), and further recites that the NMS process communicates with the configuration database through a standard database protocol that comprises a Java Database Connectivity (JDBC) protocol. As discussed above, the combined teachings of Lin and Krishnamurthy fail to teach or suggest the salient features of claim 3, and hence those of claim 10. Further, Sampson does not cure the shortcomings of Lin and Krishnamurthy. More specifically, Sampson is directed to a method of managing sessions in a network by utilizing session managers bound to a first set of servers to provide access to a second set of servers. Sampson, however, does not teach maintaining two configuration databases – one internal to a network device and one external – in synchrony via an active query feature of the one database.

Hence, claim 10 distinguishes patentably over the combined teachings of Lin, Krishnamurthy and Sampson. Further, the same reasoning applies to establish that claim 16, and those claims that depend on claim 16, are also patentable.

CONCLUSION

In view of the above amendments and remarks, Applicants respectfully request reconsideration and allowance of the application. Applicants invite the Examiner to call the undersigned at (617) 439-2514 if there are any remaining issues.

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Respectfully submitted,

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